

STATUS OF THE CLAIMS

Claims 1-45 were originally filed in this patent application. In the pending office action, claims 34, 36-41 and 43-45 were rejected under 35 U.S.C. §101 as being directed to non-statutory subject matter. Claims 1, 3-6, 8-11, 13-17, 19, 21-23, 25-27, 29-31, 33-36 and 38-44 were rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 6,530,078 to Schmid *et al.* (hereinafter “Schmid”). Claims 2, 7, 12, 18, 20, 24, 28, 32, 37 and 45 were rejected under 35 U.S.C. §103(a) as being unpatentable over Schmid. No claim was allowed. In this amendment, claims 2, 7, 12, 17-18, 20, 24, 28, 32-33, 35-37 and 42-45 have been cancelled, and claims 1, 6, 11, 16, 19, 23, 27, 31, 34 and 41 have been amended. Claims 1, 3-6, 8-11, 13-16, 19, 21-23, 25-27, 29-31, 34 and 38-41 are currently pending.

REMARKS

Rejection of claims 34, 36-41 and 43-45 under 35 U.S.C. §101

The examiner rejected claims 34, 36-41 and 43-45 under 35 U.S.C. §101 as being directed to non-statutory subject matter. Claims 36-37 and 43-45 have been cancelled herein, and therefore need not be addressed. Claims 34 and 41 have been amended herein to recite a computer-readable program product in the preamble, and to recite recordable media in limitation (B), and claims 35-36 and 42-43 have been cancelled. Claims 34 and 41 as amended are therefore limited to tangible, computer-readable media. In addition, claims 38-40 depend on claim 34, and therefore also are limited to tangible, computer-readable media. Applicants respectfully assert claims 34 and 38-41 recite statutory subject matter under 35 U.S.C. §101, and respectfully request reconsideration of the examiner's rejection of these claims.

Rejection of claims 1, 3-6, 8-11, 13-17, 19, 21-23, 25-27, 29-31, 33-36 and 38-44 under 35 U.S.C. §102(b)

The examiner rejected claims 1, 3-6, 8-11, 13-17, 19, 21-23, 25-27, 29-31, 33-36 and 38-44 under 35 U.S.C. §102(b) as being anticipated by Schmid. Each of these claims is addressed below.

Claims 17, 33, 35-36 and 42-44

Claims 17, 33, 35-36 and 42-44 have been cancelled herein, and therefore need not be addressed.

Claim 1

Claim 1 has been amended herein to incorporate the limitations of former claim 2, which was rejected under 35 U.S.C. §103(a). As a result, the examiner's rejection of former claim 2 needs to be examined here. In rejecting former claim 2, the examiner states: "Schmid impliedly teaches the querying of the I/O adapter device to determine the available functions." The examiner states the virtual device driver must have access to all functions of the real device in order to make those functions available to the operating system, then assumes this teaching somehow requires querying the I/O adapter device. This is not the case. For example, let's assume an I/O adapter device driver in the host includes functions A, B, C and D. The examiner assumes this necessarily means the I/O adapter device driver must be queried to determine these functions. However, there are many possibilities other than querying the I/O adapter device driver. For example, a programmer could look at a specification sheet for the I/O adapter device driver that indicates the driver includes functions A, B, C and D, and could then program those functions directly into the virtual device driver. A system administrator may determine from a web site the I/O adapter device driver includes functions A, B, C and D, and could program a table that may be accessed by the virtual device driver. There are countless different ways a virtual device driver could be programmed with or could receive functions of the I/O adapter device driver without querying the I/O adapter device driver. These simple examples above show conclusively that the examiner's assertion that Schmid somehow impliedly teaches the querying of the I/O adapter device driver to determine the available functions is incorrect.

In an attempt to justify the assumption that Schmid impliedly teaches the querying of the I/O adapter device to determine its available functions, the examiner states:

Also, Schmid discloses that the virtual machine (VM), upon which the guest operating system runs within the host, is capable of querying for the features of a device in the system for the purpose of configuring the VM (Col. 36, lines 65-67 and col. 37, lines 20-33).

The examiner's statement is incorrect. Schmid teaches at col. 37 line 30 "024—query device and type features." This is a subcode of a DIAGNOSE instruction "for the interpretive spaces." Schmid at col. 37 lines 23-25. An interpretive space in Schmid refers to the guest. This means the DIAGNOSE instruction with the code 024 can query a device and type features for devices defined in the guest. The DIAGNOSE instruction in Schmid thus queries devices defined in the guest, which does not read on querying devices in a different logical partition as recited in claim 1. For this reason alone, the examiner's rejection of claim 1 under 35 U.S.C. §102(b) is in error.

Schmid is completely silent regarding how the guest knows what functions are available in an I/O adapter device driver. The examiner's rejection amounts to sheer speculation without any support in Schmid or knowledge in the art. Applicants respectfully assert that one of ordinary skill in the art would not be motivated based on the teachings of Schmid to query an I/O adapter device driver to determine its functions, then to provide a virtual device driver in a different logical partition that provides a set of functions at least partially determined from querying the I/O adapter device driver in a different logical partition. As a result, claim 1 is allowable over Schmid, and applicants respectfully request reconsideration of the examiner's rejection of claim 1 under 35 U.S.C. §103(a).

Claims 6, 11, 19, 23, 27 and 34

Independent claims 6, 11, 19, 23, 27 and 34 include limitations similar to those in claim 1 addressed above, and are therefore allowable for the same reasons.

Claims 3, 8, 13, 16, 21, 25, 29, 31, 38 and 41

Claim 3 recites:

3. The apparatus of claim 1 further comprising a transfer mechanism that transfers data between the virtual device driver and the shared network I/O adapter without the data passing through the I/O adapter device driver.

In rejecting claim 3, the examiner states that Schmid teaches that guest operating systems can be assigned direct and/or exclusive control of devices when necessary, thereby meeting this claim limitation. However, this rejection is inconsistent with the examiner's rejection of claim 1. In rejecting claim 1, the examiner states "the host has direct access to all hardware within the system, while the guests have access to the host-controlled hardware through emulated versions of that hardware." This language is used to reject the limitation in claim 1 of the first logical partition controlling a shared network I/O adapter and the second logical partition using the shared network I/O adapter controlled by the first logical partition. In claim 3, the transfer mechanism transfers data between the virtual device driver and the shared network I/O adapter without the data passing through the I/O adapter device driver. This is shown in applicant's FIG. 5 by the dotted line that shows data flowing from application 310 through TCP 520, IP 530, virtual hosted device driver 540, partition manager 121 to I/O adapter 390. If a guest operating system is assigned direct and/or exclusive control of devices, this expressly teaches away from the language in claim 1, upon which claim 3 depends, which states:

. . . the first logical partition controlling a shared network I/O adapter and the second logical partition using the shared network I/O adapter controlled by the first logical partition . . .

If Schmid teaches the limitations of claim 3 as stated by the examiner, it expressly teaches away from the limitations quoted above in claim 1, upon which claim 3 depends. Nowhere does Schmid teach or suggest the combination of a first logical partition controlling a shared network I/O adapter and a second logical partition using the shared

network I/O adapter controlled by the first logical partition, and a transfer mechanism that transfers data between the virtual device driver and the shared network I/O adapter without the data passing through the I/O adapter device driver. As a result, claim 3 is allowable over Schmid.

Claims 8, 13, 16, 21, 25, 29, 31, 38 and 41 include limitations similar to those in claim 3 discussed above, and are therefore allowable for the same reasons. Applicants respectfully request reconsideration of the examiner's rejection of claims 3, 8, 13, 16, 21, 25, 29, 31, 38 and 41 under 35 U.S.C. §103(a).

Claims 4-5, 9-10, 14-15, 22, 26, 30, and 39-40

Each of claims 4-5, 9-10, 14-15, 17-18, 22, 26, 30, and 39-40 depend on an independent claim that is allowable for the reasons given above. As a result, all of claims 4-5, 9-10, 14-15, 22, 26, 30, and 39-40 are allowable as depending on allowable independent claims.

Conclusion

In summary, none of the cited prior art, either alone or in combination, teach, support, or suggest the unique combination of features in applicants' claims presently on file. Therefore, applicants respectfully assert that all of applicants' claims are allowable. Such allowance at an early date is respectfully requested. The Examiner is invited to telephone the undersigned if this would in any way advance the prosecution of this case.

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Respectfully submitted,

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